



Sound Speed, Temperature, Density & Salinity Measurement



Valeport's unique solution to providing precise measurement of Sound Speed, Temperature, Density and Salinity is recognised within many Navies around the world. Fitted with a 0.04% pressure sensor as standard, the unit also uses synchronised sampling to ensure perfect profiles, and since the digital time of flight SV sensor is the most accurate in the world, it's also possible to compare the true sound velocity data with that generated by commonly used equations.

1 Sensors

Valeport's digital time of flight sound velocity sensor, high stability conductivity sensor, accurate strain gauge pressure transducer, and a fast response PRT temperature sensor.

Sound Velocity

Range: 1400 – 1600m/s
Resolution: 0.001m/s
Accuracy: ±0.02m/s

Conductivity

Range: 0 to 80mS/cm
Resolution: 0.001mS/cm
Accuracy: ±0.01mS/cm

Temperature

Range: -5°C to +35°C
Resolution: 0.001°C
Accuracy: ±0.01°C

Pressure

Range: 0 to 75 Bar
Resolution: 0.001 Bar
Accuracy: ±0.03 Bar

Other sensors can be incorporated into the instrument, please contact Valeport with your requirements

2 Data Acquisition

The instrument uses the concept of distributed processing; each sensor has its own microprocessor controlling sampling and calibration of readings. Each is controlled by a central processor that issues global commands and handles the data. This means that all data is sampled at precisely the same instant, giving superior quality profile data.

3 Sampling Modes

Continuous: 1Hz update rate. Programmable to 2, 4 and 8Hz
 Additional modes available, please contact Valeport for further details.

4 Software

Setup software is provided with the system but would be interfaced into in to existing data handling programs. For data telegram formats please contact Valeport with your requirements.

5 Memory

No memory for data storage is included as standard but a memory module can be fitted if required.



The configuration shown here is one suggestion to accommodate a predefined footprint on a particular vessel. Valeport is happy to discuss alternative designs or sensor configurations.

6 Electrical

External: 9 - 30vDC
Power: 0.7W (sampling), <1mW (sleeping)
Connector: Subconn Titanium MCBH10F
 or as specified by the customer
 wet matable options are available

7 Communications

The instrument will operate autonomously, with setup and data extraction performed by direct communications with PC before and after deployment. It also operates in real time, with a choice of communication protocols for a variety of cable lengths, all fitted as standard and selected by pin choice on the output connector:

Baud Rate: 2 400 – 115 200
Protocol: 8 data bits, 1 stop bit, no parity, no flow control

8 Physical

Materials: Titanium housing, polycarbonate & composite sensor components
Depth Rating: 750m (other depth ratings available)
Instrument Size: 251mmØ x 329mm long
Weight : 14.2kg (in air)
Shipping: Typical 36 x 36 x 56 cms, 24kg

9 Calibration Interval

Valeport recommends that sensors are recalibrated every 2 years. The instrument should be returned to Valeport, or a Valeport approved calibration facility for this procedure.

10 Ordering

Please contact Valeport for further information on instrument configurations and ordering details.